

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
Group Art Unit 1761

In re

Patent Application of

Andrew Joseph Keogh

Application No. 09/889,019

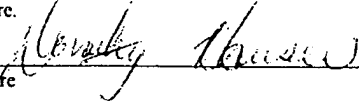
Confirmation No.: 4717

Filed: November 30, 2001

Examiner: Thuy Tran Lien

"PROCESS FOR PRODUCING A  
FOODSTUFF"

I, Dorothy Hauser, hereby certify that this correspondence is being filed electronically with the Commissioner for Patents on the date of my signature.

  
Signature

December 30, 2008  
Date of Signature

APPEAL BRIEF

Board of Patent Appeals and Interferences  
United States Patent and Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This communication is filed in response to the Office action dated December 31, 2007, and is further to the Examiner's telephonic interview with the undersigned Applicant's Representative on April 2, 2008 and the Notice of Appeal filed May 30, 2008. The necessary Appeal Brief fee is being submitted herewith.

A request for a five month extension of time is being filed herewith. Please charge or credit Deposit Account No. 13-3080 with any shortage or overpayment of the fees associated with this Appeal Brief.

At the onset, the Applicant feels compelled to express some frustration with the length and cost of the present prosecution. Applicant has received nine Office actions dated March 23, 2003, November 17, 2003, July 8, 2004, November 26, 2004, August 15, 2005, February 14, 2006, September 7, 2006, May 10, 2007, and December 31, 2007. On two occasions, the Examiner has indicated that claims are allowable, only later to reverse herself after Applicant

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amended the claims to place the application in condition for allowance based on the Examiner's indication of allowable claims. For example, in an August 15, 2005 Office action, the Examiner indicated that claims 55-57 would be allowable if rewritten in independent form. The Applicant so amended claims 55-57 in a January 17, 2006 amendment to expedite prosecution of the application. In the subsequent Office action dated February 14, 2006, the Examiner cited no new prior art but withdrew her previous statements regarding allowance of claims 55-57. Again, in an Office action dated May 10, 2007, the Examiner objected to claim 35 as being dependent upon a rejected base claim, but indicated that claim 35 was free of prior art. Accordingly, Applicant amended currently pending claim 61, making it commensurate in scope to claim 35 written in independent form, in order to expedite prosecution and obtain an allowance. Again, the Examiner changed her position and again rejected this claim. As a result, in order to bring resolution to this matter after seven years of prosecution and multiple changes in the Examiner's position, Applicant brings the present appeal.

(i) ***Real Party In Interest***

The real party in interest is the following:

Cadbury Schweppes PLC, 25 Berkeley Square, London W1X 6HT, England.

This real party in interest is recorded by the assignment at reel/frame 012328/0399.

(ii) ***Related Appeals and Interferences***

There are no related appeals or interferences.

(iii) ***Status of Claims***

Claims 24-33, 53 and 61 are currently pending in the present application. Claims 1-23, 34-52, 54-60, and 62-63 have been canceled without prejudice. Of the pending claims, no claims are allowed, no claims are objected to, and claims 24-33, 53 and 61 are rejected. Claims 24-33, 53 and 61 are presently being appealed.

(iv) ***Status of Amendments***

No amendments have been filed subsequent to final rejection.

(v) ***Summary of Claimed Subject Matter***

Independent claim 61 defines a process for setting an expanded foodstuff, comprising the steps of passing an expanded foodstuff composition, which is in a plastic state and is therefore capable of further expansion or contraction, at a first temperature and a first pressure into a setting region at a second temperature, said second temperature being lower than said first temperature; and cooling and setting said expanded foodstuff composition which is to be set in the setting region at a second pressure which is lower than said first pressure, whereby to produce a set expanded foodstuff, wherein the expanded foodstuff composition to be set is formed by extrusion and the expanded foodstuff composition to be set is cut into pieces after extrusion and is formed into balls by tumbling during which procedure the expanded foodstuff composition is heated to the first temperature prior to being passed into the setting region. See Page 2, lines 4-13; see Page 5, lines 11-20.

(vi) ***Grounds of Rejection To Be Reviewed On Appeal***

The Applicant hereby appeals the rejection made in the Office action dated December 31, 2007, and requests that the Board review:

- a) whether claims 24-33, 53, and 61 are indefinite under 35 U.S.C. § 112, second paragraph, for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention; and
- b) whether claims 24-33, 53, and 61 are unpatentable under 35 U.S.C. § 103(a) over United States Patent Number 5,132,133 ("Huber") in view of United States Patent Number 4,744,993 ("Bisson") and World Publication Number 97/34503 ("Zumbe").

(vii) ***Argument***

**Claim Rejections Under 35 U.S.C. § 112, Second Paragraph**

Claims 24-33, 53, and 61 have been rejected under 35 U.S.C. § 112, second paragraph, for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Examiner states that the phrase "during which procedure" in claim 61 is indefinite because it is not clear to what procedure the phrase is referring.

**Claims 24-33, 53, and 61:**

Claim 61 calls for:

A process for setting an expanded foodstuff, comprising the steps of passing an expanded foodstuff composition, which is in a plastic state and is therefore capable of further expansion or contraction, at a first temperature and a first pressure into a setting region at a second temperature, said second temperature being lower than said first temperature; and cooling and setting said expanded foodstuff composition which is to be set in the setting region at a second pressure which is lower than said first pressure, whereby to produce a set expanded foodstuff, wherein the expanded foodstuff composition to be set is formed by extrusion and the expanded foodstuff composition to be set is cut into pieces after extrusion and is formed into balls by tumbling during which procedure the expanded foodstuff composition is heated to the first temperature prior to being passed into the setting region.

The Applicant notes that the phrase “during which procedure” appears after the phrase “. . . and is formed into balls by tumbling. . . .” The modifying phrase “during which procedure” adds information about when the expanded foodstuff composition is heated to the first temperature. It occurs adjacent to the phrase it modifies. The Applicant respectfully submits that this is common grammar and that it is clear from the language of the claim that “during which procedure” refers to the phrase “and is formed into balls by tumbling.”

**Claim Rejections Under 35 U.S.C. § 103(a) – Huber in view of Bisson and Zumbe**

Claims 24-33, 53, and 61 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Huber in view of Bisson and Zumbe.

**Claims 24-33, 53, and 61:**

Claim 61 calls for:

A process for setting an expanded foodstuff, comprising the steps of passing an expanded foodstuff composition, which is in a plastic state and is therefore capable of further expansion or contraction, at a first temperature and a first pressure into a setting region at a second temperature, said second temperature being lower than said first temperature; and cooling and setting said expanded foodstuff composition which is to be set in the setting region at a second pressure which is lower than said first pressure, whereby to produce a set expanded foodstuff, wherein the expanded foodstuff composition to be set is formed by extrusion and the expanded foodstuff composition to be set is cut into pieces after extrusion and is formed into balls by tumbling during which procedure the expanded foodstuff composition is heated to the first temperature prior to being passed into the setting region.

Applicant respectfully submits that a *prima facie* case of obviousness has not been established. First, one of skill in the art would not be motivated to combine Huber, Zumbe and Bisson. The Examiner’s primary reference, namely, Huber, is not even directed to expanded products, let alone expanded confectionary products. Huber discloses a whole grain product that is cooked and then extruded. See col. 3, lines 54-58, col. 4, lines 3-24, and col. 4, lines 29-30. As is known by those of skill in the art, extrusion does not inevitably result in expansion. The extruded product in Huber is then placed into an oven or multi-pass dryer. It can also be fried. See col. 5, lines 6-49. Huber states that “one preferred class of final snack products are those in

the form of *thin, crisp, fried, eatable bodies. . .*” See col. 5, lines 58-59, emphasis added. This indicates that the snack product of Huber is not in expanded form. Zumbe, on the other hand, is concerned with creating expanded spherical confection products made from malted milk and malt extract. See page 3, paragraph 2. Zumbe discloses extruding a composition with an incorporated expanding agent through a die to form an expanded confection. See page 1, paragraph 4. Bisson discloses “a process for the preparation of a casein-based dry puffed product. . .” See col. 1, lines 6-7. Bisson also states that “[i]t has now been found that it is unexpectedly possible to structure casein without using chemical agents by *extrusion-expansion* and to prepare dry, *puffed*, and crispy products of neutral taste. . .” Col. 1, lines 33-36. The processes in Huber are not for producing an expanded foodstuff. They are for cooking and crisping purposes. In contrast, Bisson teaches the expansion *and* setting of its product in a region of lower pressure. One of skill in the art would not look to expanded confection products made from malted milk and malt extract and dry puffed products that are casein-based to modify whole grain products that are in the form of thin, crisp, fried, eatable bodies.

In addition, because the references are directed to different materials, different extrusion temperatures are used. Huber states that “[i]n the extruder, the mixture is subjected to increasing shear and the temperature is elevated to a maximum in the range of from about [82.22 °C – 137.78 °C], and more preferably from [82.22 °C – 121.11 °C], most preferably from about [87.78 °C – 112.78 °C].” Col. 4, lines 43-47. Zumbe, however, discloses that extrusion occurs at temperatures not to exceed 100 °C, and preferably at temperatures maintained in the 40 °C to 70 °C range. See page 4, paragraph 2. Bisson states that

[t]he temperature reached by the material in the extruder is also a critical factor in the process according to the invention. It should be high enough to impart to the material the plasticity required for passing smoothly through the bores in the nozzle, i.e., 30 ° - 70 °C in the barrel and 40 ° – 100 °C in the nozzle, the lower values of these ranges being preferred, although 100 °C. is the upper limit beyond which the casein loses its functional and nutritional properties and the grains take on an unacceptable hardened appearance after their puffing.

Col. 2, line 62 to col. 3, line 3. Although these ranges overlap slightly, both Bisson and Zumbe make it clear that higher temperatures, such as those in Huber, are undesirable.

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As to why one of ordinary skill in the art presented with Huber would somehow be motivated to look to either Zumbe or Bisson, the Examiner has provided only conclusory statements. No reasons have been articulated as to why one skilled in the art would even consider combining Huber, which, again, is directed to non-expanded, thin, crisp, fried, whole grain eatable bodies, with the other confectionary-type references. Citing *In re Kahn*, 441 F. 3d 977, 988 (Fed. Cir. 2006), the Supreme Court clarified that “rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR Int’l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727 (2007) 82 USPQ2d at 1396. See also MPEP 2141. Fried foods compared to confectionary products present unique and different challenges. Those skilled in the art would understand this and that these references are directed to entirely different products and processes, and therefore, would not be motivated to combine the references, nor reasonably expect such a combination to succeed.

Even assuming *arguendo* that the references are combinable, Huber, Zumbe and Bisson, taken separately or combined, still do not teach the subject matter of independent claim 61. As acknowledged by the Examiner, Huber fails to teach or suggest “forming [an expanded foodstuff composition] into balls by tumbling and passing into a second temperature and second pressure that is lower than the first temperature and pressure.” Office action dated December 31, 2007, page 3. Huber does not teach or suggest a second temperature and second pressure that is lower than the first temperature and pressure. Huber discloses increasing temperature and pressure in the cooking zone of the extruder. See col. 4, lines 43-57. While still in the extruder, the mixture is passed to the venting zone prior to entering the forming zone and die. Huber states that negative pressure can be created in the venting zone. See col. 4, lines 58-64. However, this all occurs during extrusion. Huber does not teach or suggest heating an *already expanded* foodstuff composition to a first temperature during formation of that foodstuff into balls by tumbling. The heating that occurs after extrusion in Huber is for cooking and crisping purposes, not for producing an expanded foodstuff.

Huber does not teach or suggest an expanded foodstuff composition that is passed from a region at  $T_1$  and  $P_1$  to a setting region at  $T_2$  and  $P_2$ , where  $T_1 > T_2$  and  $P_1 > P_2$ . Even if the

extrusion in Huber resulted in an expanded foodstuff and the treatment in the ovens or multi-pass dryers could be considered  $T_1$  and  $P_1$ , Huber does not disclose “cooling and setting said expanded foodstuff composition which is to be set in the setting region at a second pressure which is lower than said first pressure.”

Zumbe fails to cure the deficiencies of Huber. Zumbe fails to teach or suggest “cooling and setting said expanded foodstuff composition which is to be set in the setting region at a second pressure which is lower than said first pressure.” Rather, Zumbe discloses extruding a composition with an incorporated expanding agent through a die to form an expanded confection. See page 1, paragraph 4. Extrusion occurs at temperatures not to exceed 100 °C, and preferably at temperatures maintained in the 40 °C to 70 °C range. See page 4, paragraph 2. For example, in Zumbe, a rope emerging from the extruder die is cut and the pieces are transferred to a vibrating conveyer. See page 6, paragraph 2. The conveyor forms spherical pieces which are then dried at 101 °C. See *id.* Accordingly, Zumbe fails to cure Huber’s deficiencies by failing to teach or suggest “cooling and setting said expanded foodstuff composition which is to be set in the setting region at a second pressure which is lower than said first pressure.”

Bisson also fails to cure the deficiencies of Huber and Zumbe. Bisson discloses “a process for the preparation of a casein-based dry puffed product. . . .” See col. 1, lines 6-7.

For puffing, the *paste-like material* issuing from the nozzle bores is passed into an enclosure where a sub-atmospheric pressure prevails. Under the effect of the decompression, part of the water present in this material . . . is evaporated while its temperature suddenly falls which causes its puffing and the rigidification of the cellular structure produced. The degree of puffing will depend on the dry matter content of the material entering the extruder and on the level of the vacuum prevailing in the puffing enclosure.

See col. 3, lines 21-3, emphasis added.

Bisson does not teach or suggest an expanded foodstuff composition that is passed from a region at  $T_1$  and  $P_1$  to a setting region at  $T_2$  and  $P_2$ , where  $T_1 > T_2$  and  $P_1 > P_2$ . “Extrusion is commonly carried out at high temperatures and pressures so that upon exiting the extrusion die, the extrudate experiences a rapid drop in pressure and any water present is released as super-heated steam. This is what gives rise to puffing or expansion.” The Hirst Declaration at ¶ 6. “In



Bisson, the temperature and pressure are relatively low, such that only minimal expansion would occur if extruding into atmospheric pressure. For this reason Bisson extrudes into a vacuum chamber where the expansion takes place.” *Id.* at ¶ 7. In contrast to claim 61, this lower pressure is where the expansion *and* setting occurs. The vacuum chamber would constitute  $T_1$  and  $P_1$  in Bisson. There is no other region in Bisson that would equate to  $T_2$  and  $P_2$ . It is “highly unlikely” that Bisson is extruding his paste “into a region of atmospheric pressure with the product then being transferred to the vacuum chamber . . . because (i) the pressure differential between the atmosphere and the vacuum chamber is less than the pressure differential between the extruder and the vacuum chamber, so puffing would be less efficient, (ii) once the product exits the extruder it begins to cool and harden, both effects leading to less efficient puffing, [and] (iii) the apparatus would be more complicated, requiring an additional conveyor and airlock at the upstream end of the vacuum chamber.” *Id.* at ¶ 8. Therefore, “Bisson is extruding directly into the vacuum chamber.” *Id.* at ¶ 8. Accordingly, Bisson does not teach or suggest “passing an expanded foodstuff composition, which is in a plastic state and is therefore capable of further expansion or contraction, at a first temperature and a first pressure into a setting region at a second temperature, said second temperature being lower than said first temperature; and cooling and setting said expanded foodstuff composition which is to be set in the setting region at a second pressure which is lower than said first pressure. . . .” As such, Bisson does not cure the deficiencies of Huber and Zumbe.

Accordingly, for at least these reasons, the Applicant respectfully submits that claim 61 is patentable over Huber in view of Bisson and Zumbe.

Claim 24-33 and 53 each depend from allowable claim 61, and therefore are allowable. Claims 24-33 and 53 may contain additional patentable subject matter for reasons not discussed herein.

Withdrawal of the 35 U.S.C. § 103(a) rejections of claims 24-33, 53, and 61 is therefore respectfully requested.

In conclusion, in view of the foregoing, reconsideration and allowance of the application are respectfully requested.

Respectfully submitted,

By: 

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Attorney for Applicant  
Reg. No. 46,761

Docket No. 063511-9043-00  
Michael Best & Friedrich LLP  
100 East Wisconsin Avenue  
Milwaukee, WI 53202-4108  
414-271-6560

(viii) *Claims Appendix*

1-23. (Canceled).

24. A process as claimed in claim 61, wherein the first temperature is in the range of 70 to 150° C.

25. A process as claimed in claim 61, wherein the first pressure is substantially atmospheric pressure.

26. A process as claimed in claim 61, wherein the second temperature is in the range of 10 to 50° C.

27. A process as claimed in claim 61, wherein the second pressure is in the range of  $2 \times 10^4$  to  $7 \times 10^4$  Pa.

28. A process as claimed in claim 61, wherein the setting region is substantially maintained at the second temperature and the second pressure.

29. A process as claimed in claim 61, wherein the foodstuff composition is carried through the setting region by a belt conveyor.

30. A process as claimed in claim 61, wherein a chemical expanding agent is included as an ingredient of the composition.

31. A process as claimed in claim 61, wherein expansion is at least partially effected by application of heat and/or by reduction of pressure.

32. A process as claimed in claim 61, wherein the foodstuff composition is a confectionery composition.

33. A process as claimed in claim 61, wherein the foodstuff composition is subjected to a forming procedure, in which the foodstuff composition is formed into pieces of a desired shape.

34-52. (Canceled).

53. A process as claimed in claim 61, wherein the foodstuff is initially expanded by at least one of heat and pressure.

54-60. (Canceled).

61. A process for setting an expanded foodstuff, comprising the steps of passing an expanded foodstuff composition, which is in a plastic state and is therefore capable of further expansion or contraction, at a first temperature and a first pressure into a setting region at a second temperature, said second temperature being lower than said first temperature; and cooling and setting said expanded foodstuff composition which is to be set in the setting region at a second pressure which is lower than said first pressure, whereby to produce a set expanded foodstuff, wherein the expanded foodstuff composition to be set is formed by extrusion and the expanded foodstuff composition to be set is cut into pieces after extrusion and is formed into balls by tumbling during which procedure the expanded foodstuff composition is heated to the first temperature prior to being passed into the setting region.

62-63. (Canceled).

(ix) *Evidence Appendix*

- a) Declaration of James Edward Hirst under 37 C.F.R. § 1.132 as filed on 4/2/2007.

# BRECKS

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## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Examiner: Thuy Tran Lien

Filed: 30 November 2001

For: PROCESS FOR PRODUCING A FOODSTUFF

\* \* \* \* \*

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

### DECLARATION

I, James Edward Hirst, hereby declare and state that:

1. I reside at Boleyn House, 18 Skeldergate, York, YO1 6DT, UK
2. I am Managing Director of The Brecks Company Ltd a UK Company, and have worked in the food industry for fourteen years. I have worked closely with extrusion processing since 1993 when The Brecks Company Ltd installed it's first twin screw extruder and during the past fourteen years have been involved in the development of many innovative products and processes based on extrusion technology.
3. I have had business dealings with the Assignee Company Cadbury Schweppes PLC or its associated companies, but am not affiliated with them in any way.



4. I was asked by the Assignee Company's European Patent Attorney at the request of the Attorney of record to comment on my interpretation of US 4,744,993 ("Bisson") and in particular the nature of the extrusion process disclosed therein

5. I have not seen US 09/889,019 and my initial review of Bisson was without a knowledge of the issues at hand, although my comments are restricted to what I was later told to be relevant to this matter.

6. Extrusion is commonly carried out at high temperatures and pressures so that upon exiting the extrusion die, the extrudate experiences a rapid drop in pressure and any water present is released as super-heated steam. This is what gives rise to puffing or expansion.

7. In Bisson, the temperature and pressure are relatively low, such that only minimal expansion would occur if extruding into atmospheric pressure. For this reason Bisson extrudes into a vacuum chamber where the expansion takes place.

8. I was asked to consider whether Bisson might be extruding into a region of atmospheric pressure with the product then being transferred to the vacuum chamber. I think such a scenario is highly unlikely because

- (i) the pressure differential between the atmosphere and the vacuum chamber is less than the pressure differential between the extruder and the vacuum chamber, so puffing would be less efficient,

- (ii) once the product exits the extruder it begins to cool and harden, both effects leading to less efficient puffing,

- (iii) the apparatus would be more complicated, requiring an additional conveyor and airlock at the upstream end of the vacuum chamber.

In other words, this is not how a skilled person would go about the Bisson process because it is both more complicated and less efficient. I conclude that Bisson is extruding directly into the vacuum chamber.

I declare that all statements herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that wilful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such wilful false statements may jeopardize the validity of the application of any patent issuing thereon.

John H. H. H.  
[PRINT NAME]

10/02/2007  
[DATE]



(x) *Related Proceedings Appendix*

None.

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